



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,475	08/10/2001	Kinzo Korehisa	1155-0224P	6148

2292 7590 09/17/2003

BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER
----------

BISSETT, MELANIE D

ART UNIT	PAPER NUMBER
----------	--------------

1711

DATE MAILED: 09/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/925,475

Applicant(s)

KOREHISA ET AL.

Examiner

Melanie D. Bissett

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 5-22,26-28,30-32 and 37-39 is/are pending in the application.
- 4a) Of the above claim(s) 5-21,26 and 27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22,28 and 30-32 is/are rejected.
- 7) ☒ Claim(s) 37-39 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

Art Unit: 1711

1. The rejections of the final rejection have been withdrawn based on the applicant's amendment and arguments. However, a new rejection has been presented. The after-final amendment will be entered.

***Claim Rejections - 35 USC § 103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 22 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gokuraku et al.

4. Gokuraku discloses foamed polypropylene base resins, where the base resin has a melt tension of 10 gf or above and a melt flow rate of at least 0.5 g/10 min (abstract). Peroxides are added to the polypropylene resins to crosslink to a gel fraction of less than 1% (col. 6 lines 18-41). Peroxides include bis(4-butylcyclohexyl)peroxydicarbonate (col. 7 lines 1-7). The starting polypropylene compounds can be mixed with polypropylene or other resins (col. 7 lines 49-67). However, the reference does not suggest a preferred amount of blended unmodified polypropylene resin to be included in the composition. The applicant's claimed range of 1-50% by weight is broad in that it includes very small amounts but also includes a 50/50 mixture. The invention is drawn to modified polypropylene materials having improved expansion ratio properties but teaches that amounts of other materials may be blended. Thus, one skilled in the art reading Gokuraku and considering the inclusion of small amounts of polypropylene would envision using a minor amount of the unmodified polypropylene. It is the

Art Unit: 1711

examiner's position that, because the invention is drawn to modified polypropylene foams, it would have been prima facie obvious to include only small amounts (at most a simple minority) of unmodified polypropylene and expect to obtain the same improved expansion ratio.

5. Claims 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gokuraku et al. in view of Akzo Nobel.

6. Gokuraku applies as above, preferring the use of polypropylene resins as base resins having melt flow rates above 0.5 g/10 min. and describing the mixing of peroxide with polypropylene resin at elevated temperatures to a gel fraction less than 1% (col. 6 lines 18-41). However, the reference does not specifically mention melt flow rate of the starting polypropylene polymer, the temperature for combining the peroxide and polypropylene, or the weight percentage of peroxide needed. Akzo teaches that polypropylene compositions having improved melt strength can be formed by melt mixing a peroxydicarbonate with a polypropylene having a melt flow index above 0.5 g/10 min. in an extruder or kneader at a temperature between 170 and 225 °C, and extruding the mixture (p. 4 line 2-31). The peroxydicarbonate is used in amounts of 0.1-10 meq (0.04-4 g peroxide / 100 g polypropylene) (p. 6 lines 17-21). Since Gokuraku is also concerned with melt properties of the compositions, it is the examiner's position that it would have been prima facie obvious to use the parameters of Akzo's invention in the formation of Gokuraku's base resin to form compositions of improved melt strength.

Art Unit: 1711

7. Gokuraku applies as above, teaching the use of certain peroxides *and the like*, but failing to mention the use of dicetyl peroxydicarbonate. Akzo prefers the use of certain peroxides that are solid at room temperature, including bis (4-t-butylcyclohexyl) peroxydicarbonate and dicetyl peroxydicarbonate (col. 6 lines 7-12). Since the peroxides are taught as equivalents and are both solids at room temperature, it is the examiner's position that it would have been prima facie obvious to use dicetyl peroxydicarbonate in Gokuraku's invention in place of bis (4-t-butylcyclohexyl) peroxydicarbonate in the expectancy of forming compositions of equally improved melt strength.

***Allowable Subject Matter***

8. Claims 37-39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter:

10. The closest prior art, Gokuraku et al., teaches foamed polypropylene base resins, where the base resin has a melt tension of 10 gf or above and a melt flow rate of at least 0.5 g/10 min. The reference teaches modified polypropylene resins, to which other polypropylene resins may be added. However, the reference does not give guidance or otherwise indicate choosing the range of 5-20% by weight of the unmodified polypropylene. Therefore, it is the examiner's position that the specific

Art Unit: 1711

combination claimed by the applicant would provide a novel and unobvious step over the prior art.

***Response to Arguments***

11. Applicant's arguments with respect to claims 22, 28, and 30-32 have been considered but are moot in view of the new ground(s) of rejection.

12. Note again that Gokuraku, col. 7 lines 49-67, does not teach the amount of resin other than polypropylene resin that would be too high. However, since the reference specifically notes that other resins including other polypropylene resins may be added, it is the examiner's position that the reference supports the addition of such other resins, and it would be obvious to use small amounts.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie D. Bissett whose telephone number is (703) 308-6539. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (703) 308-2462. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

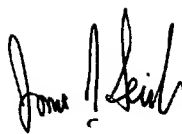
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Application/Control Number: 09/925,475

Art Unit: 1711

Page 6

mdb



James J. Seitz  
Supervisory Patent Examiner  
Technology Center 1700